

ABSTRACT

A process for producing a mesophase pitch based active carbon fiber, comprising the steps of carbonizing a mesophase pitch based infusibilized fiber at 600 to 900°C, 5 activating the thus obtained carbon fiber with alkali, and immersing the thus obtained mesophase pitch based active carbon fiber in an electrolyte and subjecting the immersed mesophase pitch based active carbon fiber to such a charge and discharge treatment that a voltage gradually increased 10 until exceeding 2.5 V is applied at a constant current density to the mesophase pitch based active carbon fiber so that an electric double layer is formed at an interface of the mesophase pitch based active carbon fiber and the electrolyte to thereby effect a charging and thereafter a 15 discharging is effected at a constant current density. There are further provided an active carbon fiber produced by the above process and an electric double layer capacitor including an electrode comprising this active carbon fiber.